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Environmental & Architectural Phenomenology

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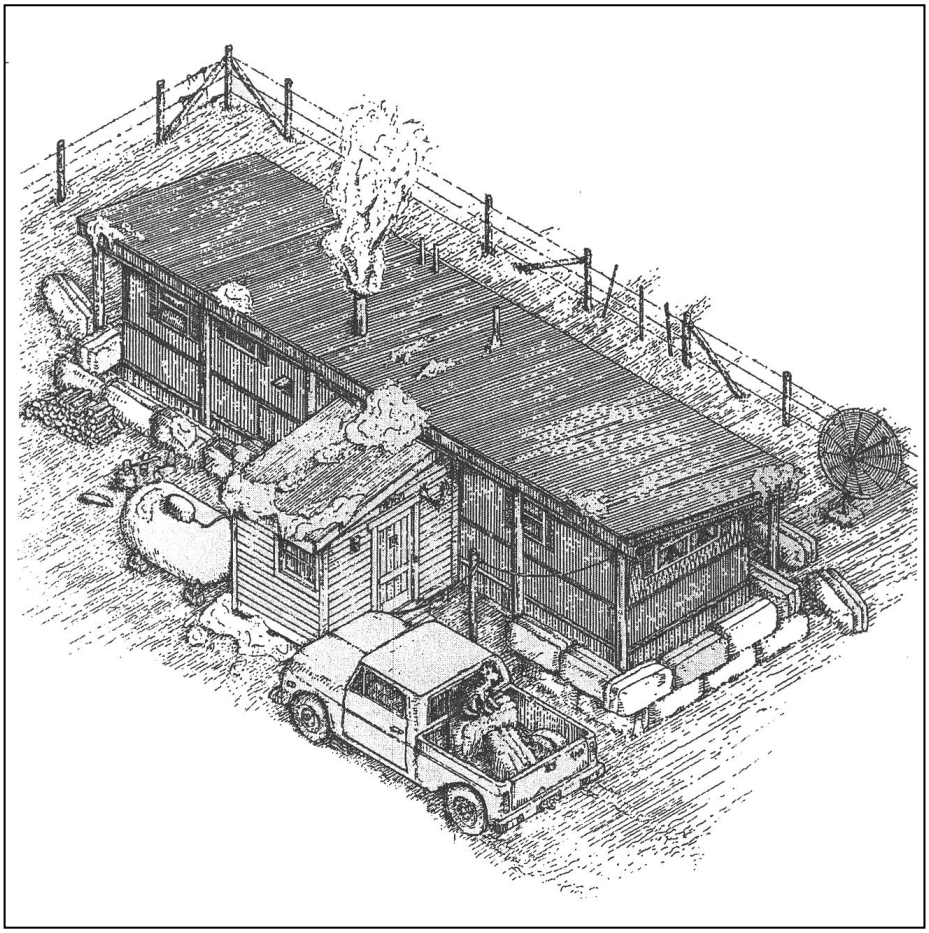
This *EAP* issue includes two feature essays. Canadian educator **Norm Friesen** demonstrates how a phenomenological perspective contributes to understanding the lived differences between real and virtual realities. He focuses on laboratory vs. digitally-simulated animal dissections and draws on the ideas of Heideggerian philosopher Albert Borgmann to locate some of the pedagogical strengths and weaknesses of reality-based vs. hyperreal modes of learning.

In this issue's second essay, retired Australian educator **John Cameron** writes a sixth "letter" from his rural home on Tasmania's Bruny Island. His focus is the ecological restoration of some 50 acres of overgrazed paddocks, and the difficulties and satisfactions, both philosophical and practical, that arise from his decision to return the land to its "natural state." Cameron considers how these efforts at restoration have shifted his sense of self: "I have felt a deeper affiliation with the land… the place has shown us what needs to be done, but it has required me to relinquish my own ideas and dreams of what I would be doing…."

As always, we ask readers for contributions, whether items of interest, citations, reviews, essays, poems, graphic work, or something else. We attempt to present information and points of view that are less accessible elsewhere, and partly this happens because of what you, the readers, send us. Please contribute!



Left: A drawing from architect Kingston Heath's 2009 Vernacular Architecture and Regional Design *(see p. 5), illustrating a "regionally adjusted southwestern Montana mobile home." In coping with the region's considerable snowfalls and winter energy demands, the mass-produced structure has been modified to include such built features as shed roof (to counter heavy snow loads) and mudroom entry (to buffer winter winds, to protect against heat loss, to store firewood and boots, to catch snow and mud). Note hay-bale skirting placed around trailer base to counter heat loss. Heath writes: "A first reading of a mobile home placed in the Rocky Mountain region… involves functionally dominant responses. In such an environment as Montana, where climatic factors are particularly critical, seasonal demands for basic survival are most evident. Functional imperatives related to pure environmental design… often outweigh aesthetics…" See contrasting North Carolina modifications in the drawing, p. 3.*

More Donors, 2011

Since the winter 2011 *EAP* issue was published, additional readers have contributed more than the base subscription for 2011. Thanks to you all!

David Adams
Clare Cooper Marcus
Ken Evenden
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Eva Simms
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Tom Barrie
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Robert Habiger
David Kermani
Patricia Locke
Juhani Pallasmaa
Charlene Spretnak
Harvey Sherman
Ian Wight

Items of Interest

The **Nature Institute** in Harlemville, NY, is offering, July 10–16, 2011, a summer seminar on a Goethean phenomenology of water and other fluids. www.natureinstitute.org.

Music and Phenomenology is the theme of the 2011 Symposium of the Simon Silverman Phenemonology Center at Duquesne University in Pittsburgh, March 17–18, 2011. Keynote speakers are music historian and theorist **Judith Lochhead;** and philosophers **Dennis Schmidt, Marcia Sá Cavalcante Schuback,** and **John Sallis.**
www.duq.edu/phenomenology/music.

The conference, **Mobilities in Motion: New Approaches to Emergence and Future Mobilities,** will be held March 21–23, 2011, at Philadelphia's Drexel University. The conference description reads in part:

In the early 21st century, people, images, information, goods, and even our bodies are moving differently than they did in the past, often in more dynamic, complex and trackable ways than ever before…. At the same time, new mobile social media, locative social networks, and digital arts are handling movement and connectivity in new ways, creating new kinds of hybrid public spaces. [In addition], new alternative cultures of mobility are… emerging, as people enact, perform, and combine mobility and stillness in new ways.

This conference seeks to advance the field of mobilities research, bringing together both established and new researchers from across the Americas and Europe to present up-to-date research on a wide range of trans-disciplinary topics that address some of the most compelling issues that we face in the world today. http://mcenterdrexel.wordpress.com/conference/.

Reader Commentary & Response

We received the following comments from psychologist **Eva Simms** in regard to architect **M. Reza Shirazi's** winter 2011 essay on architectural theorist Christian Norberg-Schulz's interpretation of architect Tadao Ando's Vitra Conference Center. Simms writes:

I have some issues with Reza Shirazi's critique of Norberg-Schulz's interpretation of buildings by Tadao Ando and Frank Gehry. Norberg-Schulz's central point is that the two architects' designs do not relate to the landscape and do not bring out the *genius loci* but are self-involved and self-indulgent.

Shirazi attacks Norberg-Schulz on theoretical grounds but does not address the key issue of the relationship between building and place: For Ando, place is only the conversation between the two buildings and a sculpture. Where is the ground, the Rhine River, the hills, the rain, the local culture, the vineyards, the town?

My main reservation, however, is Shirazi's critique of Norberg-Schulz's "tour." At least Norberg-Schulz did experience the buildings firsthand, whereas it's less clear that Shiraz did the same. I challenge him to do at least a "tour" or maybe even a phenomenological study of the Vitra Conference Center and report back to us. Architectural theory is good but is even better when tested on the ground (quite literally).

In responding to Simms' comments, Shirazi writes:

I would like to thank Eva Simms for her attention to my recent essay in *EAP*. In general, I agree with her comments but should say that, partly, they are beyond the goals and objectives of my essay. As I wrote in my introduction, I aimed to consider "to what extent Norberg-Schulz is successful in applying his phenomenological thought to one realized building." I chose his analysis of the Vitra Conference Center as a case study and attempted to highlight problems by referring to his theoretical framework as it has been elaborated in his various texts as well as presenting Ando's theoretical approach to architecture and design.

As Simms points out, Norberg-Schulz's argument is that Ando's conference center does not incorporate the *genius loci* of the building's surrounding landscape. The problem, however, is that Norberg-Schulz never provides a clear picture of this *genius loci* to justify its absence in the building. Ando's probable narrow understanding of the site and his inattention to "the ground, the Rhine River, the hills, the rain, the local culture, the vineyards, the town," to use Simms' words, is what must be explained if a phenomenological critique is to demonstrate Ando's failure in understanding and expressing *genius loci.* This is what is absent in Norberg-Schulz's analysis and, to me at least, it is what makes his argument unconvincing.

I decided to write this critique after I had visited the site and re-examined Norberg-Schulz's analysis "on the ground." Because my main aim in the essay was to evaluate Norberg-

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Schulz's interpretation, I did not insert my own firsthand observations of the building or develop my own phenomenological interpretation. As Simms remarks, "Architectural theory is good, but it is even better when tested on the ground." I agree, though this is a difficult task that needs much contemplation.

EAP Sessions at EDRA Chicago

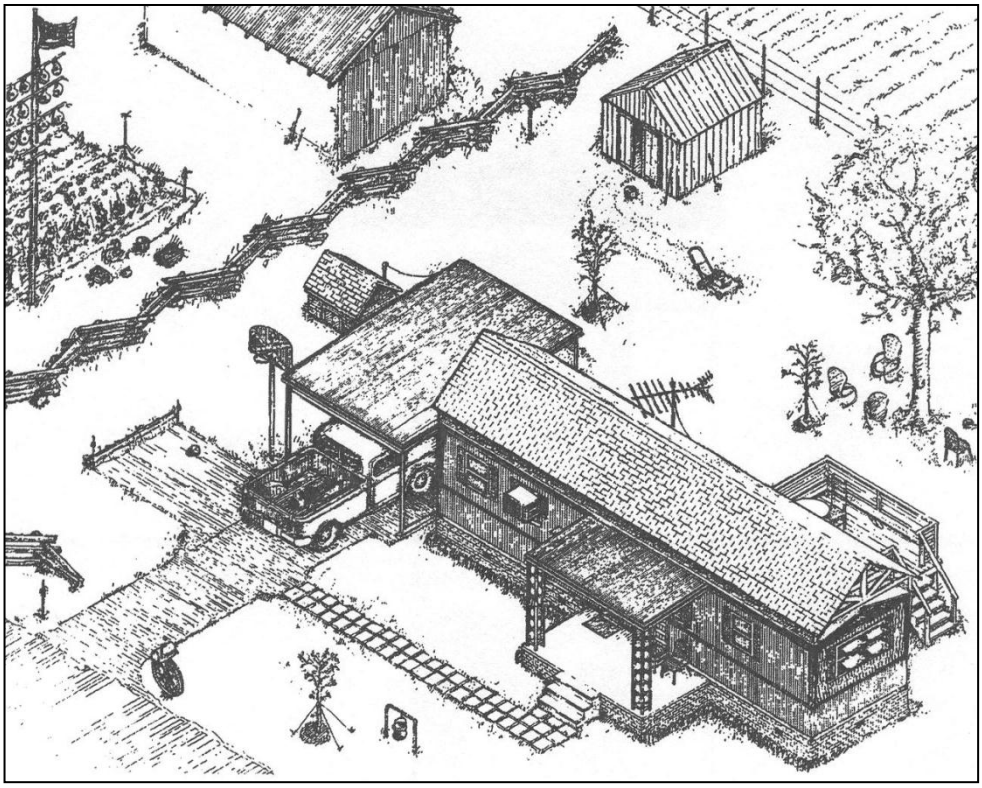
EAP is sponsoring two special sessions at the annual meeting of the Environmental Design Research Association (EDRA), to be held at Chicago's Hilton Palmer House Hotel, May 25–28, 2011. The first session (Thursday, May 26, 1:30–3 pm) focuses on "Phenomenologies of Schools, Cities, and Historic Environments." Presenters are philosopher **Ingrid Leman Stefanovic**, historic-preservation planner **Jeremy Wells**, and *EAP* editor **David Seamon**. The second EAP session (Thursday, May 26, 4–6 pm) is "Actualizing Christopher Alexander's Approach to Design: Built Work of Kubala Washatko Architects." Presenters are KWA firm principal **Tom Kubala**, project designer **Ethan Bartos,** and project architect **Chris Socha**. Discussants are anthropologist **Jenny Quillien** and architect **Kyriakos Pontikis**. Information is available at: www.edra.org.

Citations Received

Ivan Brady, 2008. Poetics for a Planet: Discourse on Some Problems of Being-in-Place, pp. 501–64 in Norman K. Denzin & Yvonna S. Lincoln, eds. *Collecting and Interpreting Qualitative Materials.* Los Angeles: Sage.

This anthropologist outlines "a poetics of place with a conscience." Brady advocates "a kind of knowing and reporting that (a) promotes phenomenology as a philosophy that puts the observer (the seeker, the knower) upfront in the equation of interpreting and representing experience; (b) pushes interpretive anthropology back into the loop of sensual experience, a body-centered position that includes a consideration of but transcends the sweeping metaphor that everything (e.g., people, landscapes) can and should be rendered as texts to be interpreted; (c) finds some continuity in the structures and orientations of body-groundedness and myth despite important limitations posed by language itself and by epistemic interference between the present and our preliterate past; and (d) gives poets special cachet through their offering forms of knowing and saying… that can engage the senses and visions of being-in-place in ways that both exceed and complement more conventional strategies in anthropology and history."

Below: This drawing from Heath's Vernacular Architecture and Regional Design *(see p. 1 & p. 5) illustrates a modified mobile home in southwestern North Carolina. Because of a mild climate, this structure reflects "social as well as functional concerns." Modifications include a gable roof (to shed rain), open porch (for shade, air circulation, and socializing), carport (to the west to absorb heat of day), and rear deck (for recreation and more private socializing). Heath explains that his case studies of mobile homes in Montana and North Carolina "are not intended to be an endorsement of manufactured homes as a living environment per se. The exercise is simply a means by which one can extract the prefabricated container from layers of adaptive response and begin to understand… programmatic priorities, environmental strategies, material preferences, and social practices that… reflect the sub-regional preferences of one socio-economic group. Collectively, these mobile-home conversions… offer a range of distinctive elements that provide an environmental, cultural, and symbolic statement of place."*



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Flannery Burke, 2008. *From Greenwich Village to Taos: Primitivism and Place at Mabel Dodge Luhan's.* Lawrence, KS: University Press of Kansas.

In 1918, New York City socialite Mabel Dodge resettled in Taos, New Mexico, mostly because of the region's mountain-desert landscapes and indigenous cultures. This historian "offers a portrait of place as it took shape both aesthetically in the imaginations of Dodge's visitors and materials in the lives of everyday New Mexicans. [She] clearly shows that no people or places stand outside the modern world—and that when we pretend otherwise, those people and places inevitably suffer."

Dodge's story, claims Burke, teaches lessons that "would truly bring the faraway nearby for those both outside and within northern New Mexico.

"For outsiders, the faraway would no longer be a primal landscape of authentic experience; the nearby would no longer be artificial. For New Mexicans, the faraway would no longer be the congested and electric big city; the nearby would no longer be without opportunity.

"For outsiders the faraway would include urbane conversation and urban grit; the nearby would include the most ancient histories. For New Mexicans, the faraway world include natural beauty and the promise of belonging; the nearby would be cosmopolitan.

"To mix the local and the distant requires effort but, for locals and outsiders alike, ultimately promises great reward."

Helen M. Cox & Colin A. Holms, 2000. Loss, Healing, and the Power of Place. *Human Studies,* volume 23, pp. 63-78.

Drawing on firsthand experiential accounts of the natural disaster of an Australian bushfire, these researchers examine "how the reciprocal relationship between place and person can contribute to personal and communal healing." The researchers conclude that "the healing of the 'place' was in a symbiotic relationship with the healing of the people who dwelt in it. The beauty of this place [much changed by the bushfire] did not disappear with the devastation but took on a new appearance. Some residents saw the beauty that exists in nature regardless of human aesthetic ascriptions, and so even the burned bushland had restorative power."

Nicholas de Monchaux, 2010. *Spacesuit: Fashioning Apollo.* Cambridge, MA: MIT Press.

This architect describes how "the twenty-one-layer Apollo spacesuit, made by Playtex, was a triumph of intimacy over engineering." Custom-sewn by seamstresses whose usual work was fashioning bras and girdles, the spacesuit design is said to demonstrate the victory of Playtex Corporation "over the military-industrial complex—a victory of elegant softness over engineered hardness, of adaptation over cybernetics." De Monchaux claims that the story of the spacesuit "tells us about redundancy and interdependence and about the distinctions between natural and man-made complexity; it teaches us to know the virtues of adaptation and to see the future as a set of possibilities rather than a scripted scenario."

Lester Embree, Michael Barber, & Thomas J. Nenon, eds., 2010. *Phenomenology 2010, vol. 5: Selected Essays from North America (Part 2: Phenomenology beyond Philosophy).* Bucharest: Zeta Books.

This edited series, in five volumes, works to present a comprehensive overview of current phenomenological work in both philosophy and other disciplines. Volume 5 focuses on North American work by non-philosophers and includes several chapters relevant to environmental and architectural phenomenology: "Bioregionalism: Identification and Orientation as a Problem of Scale" (Gary Backhaus); "Constructing a Curriculum of Place: Embedding Meaningful Movement in Mundane Activities for Children and Youth with Autism Spectrum Disorder (ASD)" (Maureen Connolly); "Local Workers, Global Workplace, and the Experience of Place" (Lori K. Schneider); "Gaston Bachelard's Topoanalysis in the 21st Century: The Lived Reciprocity between Houses and Inhabitants as Portrayed by American Writer Louis Bromfield" (David Seamon); "The Fragile Phenomenology of Juhani Pallasmaa" (M. Reza Shrazi); and "Merleau-Ponty and James Agee: Guides to the Novice Phenomenologist" (Sandra P. Thomas).

John Eyles & Allison Williams, eds., 2008. *Sense of Place, Health and Quality of Life.* Burlington, VT: Ashgate.

The 14 chapters in this edited collection examine "sense of place" as "an outcome of interconnected psychological, social and environmental processes in relation to physical place(s)." The first two chapters are useful reviews of the "sense of place" and "environmental health" literatures. Contributors include Edward Relph ("Sense of place and emerging social and environmental challenges") and Lynn Manzo ("The experience of displacement on sense of place and well-being"). One conclusion proposed is that "sense of place varies and is largely based on individual experiences with place and influenced by a number of factors including time, place characteristics, and demographic variables such as cultural background, personal history, and residential status. Although the relationship between sense of place and well-being is not straightforward, the literature shows that a relationship does indeed exist. In the same regard, the literature review also shows that there is still much to be learned about sense of place, especially whether sense of place is compromised or altered in modern society by globalization and technology" (L. DeMiglio & A. Williams, chap. 2, p. 27).

Susanne Kianicka, Matthias Buchecker, Marcel Hunziker, & Ulrike Muller-Boker, 2006. Locals' and Tourists' Sense of Place. *Mountain Research and Development,* vol. 26, no. 1, pp. 55-63.

his study examines "differences between locals' and tourists' sense of place by means of a qualitative interview study in Alvaneu, a Swiss Alpine village… The findings reveal that the place characteristics… are approximately the same for both groups. However, locals and tourists attribute different meanings and significance to these characteristics [economic development vs. cultural preservation] and thus have distinct needs regarding landscape development

Pete Hay, 2006. A Phenomenology of Islands, *Island Studies Journal, vol. 1, no. 1, pp. 19–42.*

An excellent overview of recent developments in "nissology"—the study of islands. Is, Hay asks, "a coherent theory of islandness possible?" To consider this question, he first discusses three conceptual concerns: (1) the nature of the island "edge"; (2) the place of islands in today's global interconnectedness; and (3) the question of island as metaphor vs. island as reality. He concludes that "the difference-respecting and identify-focused nature of phenomenology of place is particularly apposite for island studies." The paper concludes with a consideration of "what a phenomenology of islands might look like." See sidebar, right.

Kingston Wm. Heath, 2009. *Vernacular Architecture and Regional Design: Cultural Processes and Environmental Responses.* London: Architectural Press.

This architect lays out a series of strategies for understanding the significance of regional setting as it contributes to place making. Using a case-study approach, Heath illustrates how builders and architects have drawn on a wide range of design and construction means to provide "culturally and environmentally appropriate design solutions." He calls for a principled approach to design that preserves fragile environments and promotes sustainable practice. See drawings, p. 1 and p. 3.

Manuel Lima, 2011. *Visual Complexity: Mapping Patterns of Information.* NY: Princeton Architectural Press.

This book "presents 100 of the most interesting examples of information-visualization by the field's leading practitioners." The aim is to "integrate a thorough history of information visualization with an examination of the real-world situations in which it is used."

Sabine Rewald, 2011. *Rooms with a View: The Open Window in the 19th Century.* New Haven, CT: Yale Univ. Press.

This book examines "the theme of the open window in 19th-century European art and its associated qualities of poetry, luminosity, and unfulfilled longing."

Island studies & the phenomenology of place

Given its focus upon experientially-derived identity and culture-nature symbiosis, the politics of local place that emerges from the phenomenological tradition seems best suited to the construction of a coherent theory for the special places that islands constitute….

[P]henomenological investigation lays stress upon vernacular constructions of meaning and their attendant technologies, beliefs, value codes, and myth structures via a process of multi-sensorial receptivity to that-which-would-be-known, an openness that collapses the critical distance between subject and object, insisting that the two flow together….

Though islands may be considered a special focus of place studies, an almost paradigmatic one in which [place] qualities are heightened, their essence distilled, and their meanings sharpened, this does *not* amount to a purpose-built nissology; it does *not* arise intrinsically from an engagement with islands specifically. Rather, it is yet another continentally-derived epistemological paradigm, and on this account it is likely that it will not be regarded as satisfactory by many islophiles….

But I would submit that, precisely because it can accommodate fault lines of intractable difference, place phenomenology *does* work as a coherent theoretical framing for island studies—and that it does then demonstrate that the faith of many islophiles in nissological possibility is not misplaced.

—Pete Hay, 2006, p. 33, p. 34

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Real vs. Virtual Dissections:
Brilliance and Transparency or Encumbrance and Disruption?

Norm Friesen

Friesen is Canada Research Chair in E-Learning Practices and Director of the New Media Studies Research Centre at Thompson Rivers University in Kamloops, British Columbia. A longer version of this essay is published in a special issue of Techné: Research in Philosophy and Technology. *That essay will be a chapter in Friesen's forthcoming book,* The Place of the Classroom and the Space of the Screen: Relational Pedagogy and Internet Technology *(Peter Lang, 2011). nfriesen@tru.ca.*

In his influential essay, "Digital Natives, Digital Immigrants," writer on education Marc Prensky (2001) encourages digital simulations and educational video games for all curricula. He boasts there is no subject too involved or too sensitive for which there is no "game or other Digital Native method for learning it":

> *Classical philosophy?* Create a game in which the philosophers debate and the learners have to pick out what each would say. *The Holocaust?* Create a simulation where students role-play the meeting at Wannsee, or one where they can experience the *true* horror of the camps, as opposed to the films like *Schindler's List* (ibid., 6)

In this essay, I consider some experiential limits of simulation technology and their significance for education. I focus on *real* versus *digital* animal dissections carried out in high school and college biology. I begin by describing the experience of these two modes of dissection and follow with a more general analysis of the "virtual" or "hyperreal."

The Dissection Experience

In debates about animal dissection, studies using qualitative methods have examined the laboratory dissection experience and student responses. Classroom accounts typically follow a common sequence of events, punctuated by experiential moments of particular prominence.

One moment is the initial encounter with the animal carcasses. Students typically notice them as they walk into the classroom, spotting "flattened rats in a jar," "little dead pigs lying in the sink," "a jar of pickled animals," or a creature simply "tossed... into a plate" (Solot & Arluke 1997, 34). Such observations are accompanied by strong olfactory impressions, including the smells of formaldehyde (which "refuses to leave your hands") and rotting flesh (said to "get a little riper with each passing session").

A second significant experiential moment in laboratory dissection is the act of touching the carcass and making the first incision:

> The initial incision …the transforming cut and the only one made into a body that bears the obvious markers of "animal"… is frequently the hardest one for students to make. Even some students who had never dissected predicted that "opening" the animal would be the hardest part (ibid., 35).

Student comments give special emphasis to the embodied, *inter*corporeal character of this moment. Here is one high school student's account involving a fetal pig:

> The first day, I thought I was just gonna be sick when Linda was actually slicing this pig open. I felt nauseated.... I don't handle blood and that kind of stuff very well. I was very glad that it didn't have blood in it. If it was a pig that had just died and had blood, I would not have been able to handle it.... (Barr & Herzog 2000, 64).

There are good pedagogical reasons for including laboratory dissections in basic science and biology curricula: for example, learning "the structure and function of organs" (Jordan School District 2004) and being able to safely use dissection "apparatus and materials" (Sackville High School 2008). From an experiential perspective, however, impressions of disgust, nausea, and repulsion often over-

whelm other, less visceral and more intellectual aspects of the dissection.

A *virtual* frog dissection provides a clear contrast. One example is the frog-dissection simulation at http://www.frogguts.com, which begins when the student clicks on a link. Once the dissection program has loaded, the student sees an animated homepage indicating several demo simulations. After choosing the frog option, the student encounters an image of a life-size bullfrog filling much of the browser window. First, the student is asked to fasten the frog to a dissection tray, an action accomplished through a series of mouse clicks. Next appears a dotted red line running the length of the frog's abdomen. The student is instructed to make three incisions on this line by clicking and then dragging the cursor along the frog's underbelly.

Any unease one might feel is muted, since there are no accompanying unpleasant sounds or unusual feelings of resistance. There is no elasticity, no moist membrane to puncture and incise—only the frictionless gliding of the cursor across the computer screen.

Following the stomach incisions, the dissection software provides clickable scissors with which the student is to "cut upwards… through the muscle tissue." Halfway up the stomach, the cutting is suddenly interrupted by a pop-up that instructs the student to "twist the scissors to avoid cutting the heart under the ribs." The student clicks on another icon, and the scissors slip to one side, allowing the "cutting" to continue. Immediately, the internal organs of the frog are visible, to be examined and identified by a "magnifying glass" and "writing pad" now present on the screen. When the student locates an organ through the magnifying glass, an identifying label appears; another click of the mouse "enters" the name of the organ on the notepad.

As pointed out earlier, the manifold sense impressions assaulting students in the laboratory dissection are absent or muted in the digital simulation. There is no smell of formaldehyde or rotting flesh; there is no need to fear that the carcass might spurt blood. The student's first impression is not a dead creature but an advertisement for the dissection program. Handling and cutting the carcass is a question of clicking the correct buttons in sequence and gliding the simulated scalpel across the screen.

Another conspicuous moment in the laboratory dissection is what has been called "distantiation" or "de-animalization" (Solot and Arluke 1997, 35) whereby the identity of the creature *as creature* is largely obliterated. Barr and Herzog (2000) report that some "students cover[ed] the face of the animals they were dissecting," with one student explaining:

> Every time we've worked on it [the pig] the face was covered. I couldn't cut the face. I could watch, and once the face was cut it didn't look like a pig anymore, and I could deal with that because it looked like—you know—a scientific experiment to me (ibid., 59).

Over time in the laboratory dissection, the strong intercorporeal link between student and dissected animal shifts. The visceral, acutely empathic response is replaced by a more distanced, intellectual attitude. For example, one student described a rat's insides as a kind of "marvel: all of these little body parts, fitting and working neatly together like a sort of beautiful wet machine." Barr and Herzog (ibid., 63) note such student comments as:

- "God, his liver is like a mushroom or something. His heart's kinda tough. Feel that."
- "Look at that. Oh, it's got a weird texture."

In spite of a broadening intellectual awareness, however, one notes in these comments that a sensory richness remains, with tactile sensations emphasized especially.

Virtual vs Organic

The contrasting possibilities and limitations of real and simulated dissections can be further explored by considering how virtuality (the "hyperreal") is considered in philosophy. In a critique of "hyperreality," philosopher Albert Borgmann (1992, 87–102) characterizes virtual contexts and objects in terms of *pliability, discontinuity and disposability,* and *brilliancy.*

Pliability refers to the fact that hyperreal objects can be "entirely subject[ed] to…desire and manipulation" (ibid., 88). In the virtual dissection, pliability is well illustrated by the ease with which the virtual frog can be sliced open, its organs re-

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vealed, then inspected with a magnifying glass, and finally noted with pencil and paper. No one tool or task in this virtual process requires a particular disposition or comportment different from any other. There is no scalpel piercing tissue, no eye peering through magnifying glass, no pen writing. Rather, all that is required is a series of repetitive mouse-clicks and relative immobility in front of a computer screen.

Borgmann describes the *discontinuity and disposability* of hyperreal objects and environments in terms of contextual relationship:

> To be disposable, hyperreality must be experientially discontinuous with its context. If it were deeply rooted in its setting, it would take a laborious and protracted effort to deracinate and replace it. Reality encumbers and confines (ibid., 95–96).

The laboratory dissection is rife with encumbrance and confinement, including persistent odors; parts of the preserved animal's "context"; and the irreversible incisions that, if made incorrectly, might render an organ absent or unidentifiable. Neither the process nor the product of laboratory dissection lend themselves to the discontinuity and disposability that Borgmann associates with hyperreality: The toxic remains of the dissection are all too persistent and must be dealt with in terms of cleaning, disposal, and safety.

In contrast, the "undo" and "redo" options of a virtual dissection are not so much convenient features as intrinsic properties of a virtual world in which an object can be refreshed, rebooted, or simply shut down at will.

Borgmann describes the third hyperreal quality of *brilliance* as "absence of noise" and a heightening of an object's "attractive" features. The "truly brilliant reality," Borgmann says, "would exclude all unwanted information," resulting in an experience providing only those aspects of explicit relevance. In the online dissection, all encumbering intercorporeal aspects are removed; what remains is brilliant in Borgmann's sense—from the X's and dotted lines that appear in the places for fastening and incision to the appearance and disappearance of instruments, labels, and other visual prompts.

Inclusion & Exclusion

The virtual inclusion of "brilliant" features and the systematic *exclusion* of all forms of encumbrance and confinement are remarkably consistent with the conceptualization and design of instructional simulations. Specialists in instructional design sometimes use a quasi-mathematical formula to capture these processes of inclusion and exclusion. As Jacobs and Dempsey (1993, 200) explain:

> *one only needs to simulate those events or characteristics that allow the learner to perform in a proficient manner when performing in the operational environment, i.e., the real world. This representation of the characteristics of simulation has been characterized by Gagné… and later by Clariana in the following formula:*
>
> *Simulation = Reality – Task irrelevant elements.*

Using Borgmann's terms, this formula means that the virtual dissection excludes "noise" that would encumber and confine the user. And it includes those features—e.g., labels, pins, scissors and magnifying glass—only when their presence is instructionally desirable.

The end product is a simulated experience of a world as "pliable" and as accommodating of "discontinuity" and "disposability" as possible; it is as fully deracinated and uprooted from any real-world environment as design will allow. In short, the simulation can be said to be "brilliant" in a way that is specifically instructional.

But important differences remain. First, the object of concern in the laboratory dissection is organic in its origin, development, and growth. Online, in contrast, the object in question is designed according to specific objectives. The real-world development and growth of a frog, for example, does not revolve around explicit, educational objectives but occurs for "reasons" (if they can be called such) that are entirely different. In simple terms, the virtual object is *designed by someone* for *explicit* human (educational) purposes, whereas its physical counterpart *develops on its own* for purposes that are (at best) *implicit* and not directly reducible to human ends.

As one does with any software, students engage with the simulation via an "interface." An examination of the language used in the literature of inter-

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face design reveals that words like "seamlessness," "transparency," "translucency," "playability," "learnability," "flow" and "intuitiveness" are often used to designate desirable design qualities (*Usability First* 2010).

As these terms suggest, a key goal of interface design is a kind of comfortable certainty and familiarity. Interestingly, this mode of experience resonates with the language that Husserl and later phenomenologists use to describe *intentionality,* which refers to the everyday purposes, plans, and categories connecting us with our world prereflectively. Intentionality renders a lived familiarity, enabling us to "live in certainty of the world" (Husserl 1970, 142) and to sustain the everyday, commonsensical "natural attitude."

In other words, computers, particularly their interfaces, are designed to anticipate and to facilitate what we want to do, when we want to do it. Thus in the computer dissection exercise, scissors appear precisely when an incision is required, and a magnifying glass takes their place when closer inspection is desired.

This smooth transition from one tool to another aims to provide students with an experience of uninterrupted transparency and flow—in other words, a sustained but prereflective assurance of "living-in-certainty-of-the-world." The figurative "threads of intentionality" that Merleau-Ponty says are "slackened" through the phenomenological reduction and suspension of the natural attitude (2002, xv) are, in this case, carefully kept as short and taut as possible. Any potential experiences of strangeness, otherness, disruption, or surprise are assiduously avoided. The student remains in the world of computer controls and images.

Simulating Encumbrance

Attempts to *simulate* digitally the experience of encumbrance and inconvenience highlight further important differences between laboratory and virtual dissections. Each involves a particular experience of care. One example is the digital warning to "carefully twist the scissors to avoid cutting the heart under the ribs." What the simulation is actually asking for is a mouse click that is no more careful or skillful than any other. To simulate care and the encumbrance and confinement that it presupposes would be to work against the very logic, design, and purpose of the computer and its interfaces. Attempts to simulate encumbrance and confinement (and other experiences like the deprivation and suffering proper to Prensky's example of concentration camps) reduce themselves to futility or triviality. They become arbitrary or unnecessary irritations rather than challenges inherent to the task itself.

If the simulated dissection unavoidably confronts the student with familiar aspects of her own self and world, the laboratory dissection presents the student with that which is *not* herself and with that which is "other." According to philosopher Bernard Waldenfels (2007), the "other" is something that is manifest as a disruption of the self, its world, its plans and intentions. Waldenfels goes so far as to describe the encounter as an "upheaval" and explains: "As far as such upheavals are concerned, one can only yield to them or withdraw from them" (ibid., 30).

Learning as Encounter with World

Like all experience, learning involves an encounter between self and world. This experience can involve upheaval or disruption or can be planned and optimized in advance, down to the finest detail. Both modes of experience—inconvenience, encumbrance, and disruption as well as familiarity, pliability, flow, and brilliance—are important in education. For example, the elimination of irrelevance or noise and foregrounding most relevant qualities and eliminating "noise"—what Borgmann terms "brilliance"—is an indispensible part of lesson planning and instructional design.

We should not conclude, however, that brilliance alone represents the sum total of what is desirable pedagogically. Opacity, disruption, and upheaval also need to be understood and cultivated as important lived dimensions of education. Experiences that are emphatically embodied, both affectively and viscerally, are intrinsic to education. By definition, disruption and upheaval are inimical to systematic planning and design. These experiences run against the grain of the virtual interfaces through which planned instruction is increasingly delivered.

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Instead, the upheaval and uncertainty that opacity, encumbrance, and disruption imply are disclosed only through slackening the figurative threads of intention, categorization, and planning. As a rigorous means through which these threads can be understood and the grip of intentionality relaxed, phenomenology offers valuable first steps in bringing this experiential and educational realm into focus.

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Sixth Letter from Far South
Encounters in the Field

John Cameron

This essay is one of a series of "occasional letters" that retired environmental educator John Cameron will be writing from his home on Bruny Island, just off the southeastern coast of Tasmania, the island state to the south of mainland Australia. For earlier letters, see EAP, *winter and fall 2008; spring 2009; and winter and fall 2010. The accompanying images are by Cameron's partner Vicki King; the first is a scarlet robin; and the second, white-bellied sea eagles. The third image is King's atmospheric black-and-white photograph of a wedge-tailed eagle, the remarkable bird Cameron encounters in this letter.* *Jcameronvking@optusnet.com.au.*

Six years have passed since we first encountered our home on Bruny Island while canoeing on the d'Entrecasteaux Channel that separates us from mainland Tasmania. The action in the first five of my "letters" takes place within 100 meters of the shore, but most of our 55 acres consists of steeply sloping, bare paddocks that have increasingly required my attention. Initially, we would have been happy to own only the coastal portion, but through the work of regenerating and restoring the hinterland, a different dimension of being on the land has opened for us.

Ecological restoration is a difficult concept because it is hard to know what vegetation actually existed prior to settlement, or to restore fully ecosystems that have been damaged. Environmental repair often involves undoing the strenuous efforts of previous generations, an action that sometimes can be contentious.

Ecological restoration is also claimed to be psychologically beneficial for participants. Roszak, Kanner, and Gomes' text on ecopsychology is subtitled "Restoring the Earth, Healing the Mind" [1]. Elan Shapiro drew on her experience of running restoration projects to conclude that "This art and science of helping the web of life in a particular place heal and renew itself can serve as a mirror and an impetus for individual and community renewal" [2].

Increasingly, as I cast my mind over the last four years of our efforts at land regeneration, I reflect on what its effect has actually been for our land, my partner Vicki, and myself. When we bought the place initially, a local grazier was grazing his sheep here, which was fine by us [3]. Our nearest neighbors a kilometer away emphasized the importance of keeping the grass down for fire protection; the sheep readily did that. In the first year when we were coming to Bruny only on university holidays, it was good to accustom ourselves to being here without worrying about maintaining the land.

The arrangement quickly unraveled, however, when we moved here full time. The few native trees the previous owners had planted had either died or were struggling to survive the constant nibbling by the sheep. I started walking the paddocks to familiarize myself with our new land and noticed that the sheep ate bare large patches where they tended to congregate. Their trails were conduits for spreading thistles and eroding the

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soil. We delighted in the wallabies grazing quietly in the evening next to the house and were dismayed to hear that the grazier had been shooting them in our absence. It came to a head one night when we were disturbed by high intensity beams of light flashing across our windows and the sound of gunfire close by.

The next morning we confronted the grazier, who retorted that it was his right to control the wallabies that were in "plague proportions" on the island and eating all the grass meant for his sheep.

The episode crystallized matters. It was no longer tenable to enjoy the serenity of the shore and the wildlife in the woodland while disregarding what was happening in the paddocks. We had to take responsibility for all our land, not just the beautiful parts. As far as we were concerned, the grass was primarily for the wallabies and other native animals. They were here first, after all. If wildlife was what we appreciated, we needed to create the conditions for it to thrive. Vicki mentioned the word "sanctuary," and I immediately responded to the idea: "This land is tired, it hasn't been treated well," I commented. "It needs rest and recuperation."

Much of North Bruny Island had been overcleared in the past; the adjacent bare headland was called "Woodcutter's Point" because of early timbering. One of the previous owners had been "too fond of the bulldozer," ripping out most of the remaining trees. Our neighbors, long-time residents of the island and now dear friends, told us that our land had been ploughed up many times, once to establish an unsuccessful apricot orchard, and other times for lucerne hay.

The week after the wallaby "culling," we asked the grazier to remove his sheep and not to shoot wallabies on our land any more. He departed, muttering that very shortly our land would be a "bloody mess" if we didn't keep sheep on it.

The next question was how to give practical expression to the idea of providing sanctuary for wildlife in the midst of sheep country. How could we transform degraded, overgrazed paddocks into habitat for birds and animals when neither of us had any training or experience in ecological restoration? Clearly we needed help.

The right sort of help arrived in the form of Desley, a softly-spoken, unassuming native plantswoman, who seems to have made it her life's mission to revegetate North Bruny Island. If we were going to make our paddocks more attractive for wildlife, we needed trees and lots of them. Desley spent a blustery spring day with us identifying the tree species we had, collecting seed, and advising us on what to plant. She was firm that we should only plant local provenance, native plants, a plan that was perfectly in accord with our approach of making do with what Nature provided [4]. We ordered 400 trees from Desley, who would germinate the seeds, grow the seedlings over the summer, and deliver them for planting in early winter.

The next part of our plan emerged from the visit of Andrew, a specialist in native grasses. The legacy of a century of plowing and grazing was an abundance of introduced pasture and only small patches of the native grasses we wanted to encourage for wildlife. Andrew and I spent the day traversing the upper slopes, collecting and identifying dozens of introduced species and only three native ones. Standing in a sea of thigh-high grass, I felt overwhelmed at the task we had taken on.

"What is your advice?" I asked plaintively.

"Well, you've already done the best thing you could by getting rid of 'the land lice'," he replied.

"The what?"

"Sheep. Their hard hooves and heavy grazing have destroyed many an Australian native grassland. The land can start to recover now. Don't panic, but you're going to get an ecological response to the removal of the heavy sheep grazing pressure. In a couple of seasons, this place will be covered by every weed and thistle known to man," he said breezily.

"What's the best way to control the weeds and thistles? What about all this long grass?" I asked anxiously.

"You may have to poison the thistles for a few years until you get on top of them. You don't have to do anything about the long grass. You can experiment with slashing or burning if you like later. In the long run, it'll come right. You don't actually realize it yet, but you've just traded in your university

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job for that of land manager. Look at it this way: What better thing could you do with your time?"

Andrew's words proved prophetic on all counts. The following year, California Thistles (*Circium arvense*) sprang up everywhere. The last thing we wanted was to put chemicals on our land, so I thought I'd try the old-fashioned approach. One spring morning, I set off up the slope, whistling, with a mattock over my shoulders. As I set about digging out each thistle, I was surprised at just how many there were lurking in the grass. I didn't whistle for long. As time for lunch arrived, I surveyed with aching back and forearms the pitifully small area I had weeded. A quick calculation indicated that at this rate, it would take over three years of continual digging to remove this year's thistles. I needed another plan.

By the time I had exhausted other possibilities and outfitted a four-meter spray boom and tank on the back of our four-wheel-drive ute, the thistles had become dense thickets over a meter high [5]. I also needed a backpack unit to spray between our newly planted trees and to reach those rocky and scrubby areas inaccessible to the ute. But even the seemingly endless routine of spraying had its rewards. In my notebook entry of April, 29, 2008, I observed:

> One side-benefit of the backpack spraying is that I'm getting to know every square foot of these acres—back and forth, back and forth. I can feel it in my feet even when I can't see the ground itself. Where once appeared blank uniform expanses of grass, now there are hollows, different tussock types underfoot, slight changes in slope, rock outcrops. All this is becoming known, in my legs.

If I had thought 400 trees was a lot to take on in one year, Vicki had other ideas. The following year, she said with a gleam in her eyes, "Let's go for double that." I protested, remembering that a crowbar had been necessary to dig half the holes because the ground was so hard. I also worried that the more trees we planted, the more maintenance and watering and the more backpack spraying I would be doing.

But Vicki had an ally in Desley, who said that we could probably be included in a habitat program to plant trees for endangered North Bruny bird species, and we could get volunteers to help with the planting. The prospect of free trees and free labor was too good to ignore, so I agreed that we would put in 850 native trees the next season.

Ecologists told us that if we were going to provide habitat for the two most endangered bird species in our area, we needed to plant *Eucalyptus viminalis* for the Forty Spotted Pardalote (*Pardalotus quadragintus*) and *E. globulus* and *E. ovata* for the Swift Parrot (*Lathamus discolor*). The eucalypts required faster-growing casuarinas and wattles as "nurse trees." As an understory, we needed banksias, hop bushes, and low wattles. A diversity of eucalypts, blackwoods, and prickly box trees would be best for the other wildlife. In working toward ecological restoration, we should at least roughly simulate the patches of open woodland surrounded by grassland that were probably here prior to European settlement.

But where exactly in the paddocks should these tree clumps go? I reasoned we should let Nature be our guide: Where the thistles grew the highest should be the best ground for planting. I had read that deep-rooted thistles perform a valuable ecological function by "mining" the subsoil, bringing nutrients to the surface and improving soil structure. So I mapped out the areas of greatest thistle concentration and outlined two dozen clumps, which had a pleasingly random yet organic look to them.

It turned out to be a major logistical exercise, distributing 13 different plant species over each clump and supplying water, native plant fertilizer, and tools to some 20 planters. Because the volunteer "Green Corps" had an educational component, the organizers asked me to talk during rest breaks about our intentions in planting and the intercultural history of Blackstone Bay [6]. In particular, they wanted me to emphasize that, of their own initiative, private citizens undertook major environmental work on their land; nature conservation wasn't just something that governments did.

As I spoke to the young trainees sprawled on the ground, I reflected on how quickly a private undertaking can become more collectively held. Some of our volunteers have subsequently asked us how the trees are faring, and quite a few locals comment regularly on the growth rate of the trees close to the

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road, clearly deriving pleasure from their progress. Others do not, however. The local grazier is reportedly upset by our putting trees back on the land that his forebears worked so hard to clear. One man's restoration is another man's destruction of what he holds precious.

We have now planted over 3,000 native trees and 1,300 native grasses, a figure that I would have deemed impossible when we started. Vicki's ambitions have been vindicated—we now have the foundational plantings completed, if I can keep them alive through the summers until they are established [7]. The previous two years were the driest for North Bruny since records began a century ago, requiring me to hand water the trees for five months of the year. It usually takes a morning to water and maintain 50 trees. With a desiccating northwesterly wind battering them, I often wondered whether my efforts were too puny to make a difference. But at the end of last season, after some providential rains, only about five per cent of the trees we had planted the previous winter died, compared with 50 per cent losses suffered by landholders unable to water their trees.

It's been intriguing to see the huge variations in growth and survival rates across apparently uniform paddocks. Small differences in northerly aspect that I wouldn't have noticed before have resulted in more growth for the eucalypts but not for the casuarinas. Even when the surface soil is dry, there seem to be underground water movements sustaining the trees in some places. It was gratifying to see some of the stakes around the trees immediately used by birds as vantage points to catch insects and become white with encrusted guano, while other stakes remained untouched, giving me a sense of the more promising bird habitat areas.

Tree planting also brings with it a larger time scale [8].The eucalypts we have established in the past few years won't mature and provide full wildlife value until they are 50 years old and may last 300 years [9]. To put this much effort into something that won't reach fruition while I'm alive brings mixed emotions. I hope that I'll live long enough to see swift parrots or pardalotes feeding in one of the trees we planted. I imagine a more wooded landscape bearing my imprint after I'm gone.

Because we're in a race against time, however, I may not have the luxury of such a gentle, long-term perspective. Climate- change scientists are clear—southeastern Australia can expect much hotter, drier conditions in future decades. The only chance we have to improve things for local wildlife is to establish enough trees now that can grow their roots deep enough to survive the hot, dry times ahead. The whole enterprise is risky—a bushfire any time in the next decade would kill the young trees. The changed climate might mean that never again will the land be able to support an open eucalypt woodland.

I've fallen into a regular yearly cycle of activity: Spring and autumn are the time to control thistles and weeds; winter is planting season; and summer requires watering and tree maintenance. It is not always so neatly compartmentalized. As I write this letter, there are still weeks of backpack thistle spraying to be done; the ground is dry enough for me to begin watering, and most of last year's tree guards and stakes need repair. As Andrew predicted, I could spend all my time "manag-

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ing" the land, but I've resisted, evolving a daily cycle in which I spend the mornings on the land [10], the afternoons writing and working on Bruny environmental issues [11], and the evenings in our vegetable garden or engaged in other domestic activities.

This pattern is utterly different from what I envisaged when we first moved here from the Blue Mountains west of Sydney. I imagined that Vicki and I would bicycle regularly to the next village to play tennis, I'd join the local cricket team, and we would spend weeks at a time exploring Tasmania. I'm learning from being here at Blackstone that when you commit to a place, it will show you what needs to be done. The consequences of our decision to remove the sheep from the land are still unfolding, but I am grateful for the effect it has had on how I live my life here.

Yet regenerating the fields has proven more complex than I was led to believe. Late in the second year, I realized that the thistles had an underground ally. After I had sprayed and watched the native grass return in a few months, bare patches started to appear and spread until a third of some paddocks was devoid of vegetation. Alarmed, I made inquiries. "That'll be Corby grubs," a local told me. Apparently, in its larval stage, the scarab beetle *Anoplognathus rugosus* eats all the grass roots. These larvae flourish in dry conditions, since only a heavy rain will flush them from their holes so they can be eaten by birds. Once the ground is bare, it is colonized by thistles after the next rain, and the cycle begins again. The only control is heavy application of insecticide, which we could not contemplate, since so many of the birds we cherish are insectivorous. I've had to accept that progress toward my dream of swathes of native grass between trees will be uneven at best.

My experience in the fields has been enriched by the recognition that I am the object of other creatures' attention. On my first day back after a recent overseas trip, I was out in the windy, wintry weather counting trees that had died so I could reuse their stakes and guards for the next planting. At the crest of a high ridge, I had my head down trying to determine whether there was still a live tree amidst the tall grass when I sensed movement in front of me. I looked up and gasped. I was eye-to-eye with a wedge-tailed eagle (*Aquila audax*) no more than five meters in front of me and only two meters off the ground.

"Crikey, he's as big as I am!" was my first startled thought.

The eagle was not at all disconcerted by our making eye contact and remained where he was. In fact, I was the one who was disconcerted when he glided directly over my head, still only five meters away. It was a stiff breeze, blowing the grass stalks flat, so there was plenty of lift off the ridge top, enabling him to stay motionless for a long time. A very long time. Does he regard me as a threat or as a potential lunch, I wondered, realizing that, from directly overhead, I wouldn't look any larger than a mature wallaby, and I had already seen a wedge-tail pursuing a fleeing wallaby aggressively.

The eagle rose and abruptly dropped down even closer to my head. Instinctively, I lifted up my hand holding my clipboard of planting notes, and his talons grazed the top of the board. My heart was pounding. Surely he wasn't going to have a go at me? He repeated the maneuver, and again I raised my hand to ward him off. With a glance in my direction, he tilted his right wing downward slightly and effortlessly sailed across the face of the wind a 100 meters or so. Then, as if to prove a point, he came sailing back across the paddocks to stop precisely above my head. His control in this buffeting wind was utterly remarkable.

For the next hour, we each went about our business, keeping an eye on each other. Questions

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whirled in my mind. Was this something I should be seriously concerned about? Was I a threat? Was he trying to communicate something I didn't understand? As I headed down the hill for lunch, feeling greatly enlivened and wanting to know more about eagle behavior, he flew directly over my head and down to Woodcutters Point.

The first thing I discovered was that an eagle that size was almost certainly a female, since they are up to one-third larger than the males. With a wingspan of up to 2.5 meters, she was indeed larger, since I measure 1.75 meters from fingertip to fingertip. One interpretation of the eagle's behavior was provided by an Aboriginal man familiar with our land who considered that the eagle was my totem and she was making that clear to me. A more prosaic explanation was provided by a wildlife expert who said that the eagle was simply being curious: I was certainly not under threat nor would she regard me as a threat.

The eagle has hovered above my head on several occasions since, and each time I have met her fierce gaze as directly as I can. My pulse still races and the skin on the back of my neck still tingles as I hold all possibilities for the encounter open. It's another shift in attention, I realize. I'm so accustomed to being the one who is checking things out. It's odd to let myself be the object of a wild creature's curiosity when she is clearly unafraid of me. The eagle is calling the shots, not me; she decides how long she will remain poised over my head.

I've also had avian encounters of a different kind in the fields. At first, I couldn't work it out. Strange whitish streaks started appearing on the wing mirrors of the ute. Then late one morning, I was returning from maintaining trees when I saw a male Scarlet Robin (*Petroica multicolor*), his brilliant red breast fluffed out, perched on top of the ute door. He attacked the mirror in a frenzy, again and again until he was exhausted, sat on top of the wing mirror to recuperate, relieved himself (hence the white streaks), then began the cycle again.

I laughed. Clearly the robin, failing to recognize himself in the mirror, was attacking what he saw to be another male infringing on his territory [12]. The metaphor was apt. As it happened, I had spent the morning obsessively returning in my mind to a conflict we were having with the neighboring grazier and constructing suitable retorts to the arguments I imagined him making. I was sparring with my own projections of what might happen, instead of being there in the field with the young trees, the wind, and the wildlife. The robin sparring with his reflection was a mirror for my own mental state.

Some of the tensions in working with the land have intensified this spring. After the best rainfall we've had in a decade, the thistles shot up to unprecedented heights. When I went out with my backpack sprayer, it wasn't just the young trees that were dwarfed. In some clumps, I was greeted by a thicket of thistles seven or eight feet high. As I waved my spray gun at these giants bristling with spines, I felt like Saint George wielding his sword against the fearsome dragon, a role I once played as a ten-year-old in a primary school play.

It has been a roller-coaster ride of expectation and disappointment, clarity and confusion. Some seasons, the native grasses seem to be outcompeting the weeds, and my hopes rise that we're over the worst. But then the thistles and the Corby grubs stage a comeback. Andrew and other land management experts subsequently have assured me that I will prevail if I keep spraying, but my reservations about continued chemical use have recently been supported by the work of a farmer named Peter Andrews, who has been highly successful going against the conventional wisdom of agronomists. Among other things, Andrews recommends that farmers not kill thistles: "The fact that thistles are growing in a paddock shows … that the paddock lacks fertility and needs to be regenerated. Thistles do the job perfectly" [13]. At the very most, they should be slashed when they reach maturity and left on the surface as mulch.

I find it intuitively appealing that thistles are there for a reason and should be allowed to fulfill their purpose. On the other hand, I have noticed weeds and thistles infiltrating well-grassed areas, and then smothering the grass until nothing grows beneath them [14]. I would be jeopardizing four years of strenuous expensive effort if I ignored the thistles and let them go to seed. After wrestling with this dilemma all year, I've decided to do a small ex-

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periment on one patch of ground—slash mature thistles without spraying them, do the same next season, then see what happens.

It is noteworthy, once things became difficult, how quickly I reverted to the mindset that thistles were the enemy and needed to be eradicated. Even though Peter Andrews was a reminder that the situation is far more complex, the habit of mind that oversimplifies land management into a battle was still strong. I'm learning to disentangle my emotions from the condition of the land and to take a more appreciative attitude toward the thistles as I go out to spray, remembering their role in bringing soil nutrient to the surface. I listen to the dry rattle of the wind through the thistles and admire the vigor with which they cover bare ground, but it might be a while before I'm able to contemplate a full Goethean encounter with a thistle [15].

It's not simply a dualistic view of plants (native trees and grasses, good; invading species, bad) that impedes this possibility. There is also what one might call the tyranny of scale. Large numbers of any plant can dull the instinct for appreciation, even the trees. My notebook entry of December 18, 2008 reads:

> After all the broad-scale work in and around the trees— spraying around them, dealing with the 1,200 we planted this year—it's been a great pleasure this morning revisiting last year's plantings up by Killora Road. One guard was so full of grass that I thought the tree in it had died, but I found a little prickly box (*Bursaria sp*) still alive, teased the grasses away from its roots, compacted it down. Really lovely to give individual care and attention.

The broader-scale work requires just as much care for the land but is not as personally sustaining as time spent with an individual plant. Goethean science is a striking example of that.

From an ecopsychological perspective, how has my experience corresponded with the processes of renewal and restoring of the soul that Shapiro describes? By engaging in a very "active and embodied" way with the physical work of restoration, I have felt a deeper affiliation with the land, getting to know it with my legs and my hands as well as my eyes. Shapiro writes that "restoration work involves people as partners in a mature collaborative relationship with the natural world," and there have been several examples of collaboration [16]. Most broadly, the place has shown us what needs to be done, but it has required me to relinquish my own ideas and dreams of what I would be doing on Blackstone.

Letting the dense thistles be the guide for where we planted is a strange type of collaboration because it implies the progressive elimination of my "guides," but it has been a great success in terms of tree growth. I do have the strong sense that as the birds in the fields check out our planted trees, the ladybirds and skinks take refuge in the tree guards and some self-sown eucalypts begin to appear now the sheep have left, we are working in partnership with the regenerative forces of the land. Is this an example of "witness action" that I raised in a different context in my last letter? It may be the beginnings, but it still remains difficult to maintain much receptive awareness in the midst of such intensive physical activity.

It is frequently observed that Nature can serve as a mirror and metaphor for personal processes, especially when one is doing land restoration. As the Scarlet Robin demonstrates, however, for a mirror to serve its function, the perceivers have to be able to recognize themselves in the reflected image. In this instance, I was able to "see" in the robin's behavior my obsessive thought patterns attacking a chimera, but how often do I miss such opportunities?

Shapiro asked her volunteers to pull out Scotch broom weeds, and then midway through that process, she began pointing out the good qualities of the invading weeds. She describes how "we all continued to pull out the broom plants with gusto when we returned to the slope, but with a balance of attention that increased our empathy and sensitivity to the experience of taking their lives. In so doing, we were ever so gradually uprooting the mental patterns of polarizing and putting down that keep us split off from the deeper currents of restoration" [17]. The phrase "ever so gradually," however, does not do justice to my experience of understanding that the thistles were as much allies as enemies, yet forgetting that in the next season's outbreak, "getting" it again, then losing it as conditions changed.

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Getting and forgetting, the descent into complexity; perhaps this is how it works, but perhaps it is just my own idiosyncrasies.

My experience of "restoring the Earth, healing the mind" has been much more erratic than the literature suggests. One reason why Shapiro's conclusions seem more straightforward might be that her evidence comes from discrete external projects undertaken by groups. Over a relatively short period of time, she consciously interweaves physical work with "the psychospiritual work of reclaiming the disowned parts of the inner world" to create an intense learning environment away from participants' home lives [18]. Without such a clear structure, my learning seems more provisional and equivocal. It is part of my daily life, though, an integral part for which I am grateful. It is a marked contrast with my earlier years, when I would struggle to integrate powerful experiences I would bring home from wilderness trips and spiritual workshops.

Some of the trees we have planted are thriving, already taller than I am. But at times, when the thistles or Corby grubs have been on the rampage, the paddocks have been, as the grazier predicted, a "bloody mess" and not at all like woodland and native grasslands in the making. Sometimes, too, I have felt like a bloody mess, veering from high hopes to despondency over the thistles at the same time as battling self-doubts over my technical abilities and the relationship complications of our living quite reclusively in continual proximity in challenging conditions [19].

The messiness, though, does feel necessary. The paddocks were in a suppressed state when the sheep were grazing, dominated by closely cropped pasture grasses. Mixed woodland and native grassland have much more biological diversity, and maybe they can't be recreated without some apparent chaos. Similarly, in moving from full-time employment and a semi-suburban lifestyle to a lack of externally-imposed structure on large amounts of land, I have had to acknowledge and confront mental habits that I had previously suppressed. This in turn has allowed my partnership with Vicki to deepen and mature.

Shapiro suggests that it's a journey of individuation, reclaiming our whole selves, becoming imprinted by and identifying with the inhabitants of a place. So far, it has been less about reclamation of the self and more about learning about my adversarial cast of mind, how to persevere in the face of setbacks, and to keep paying attention as I progress through the repetitive tasks of planting, weeding, spraying, and watering.

There have been several processes at work in my relationships with the inhabitants of the fields. One is gradual enmeshment through working the land. I notice how the relationships between soil condition, grass cover, tree growth, thistles, and insects are in constant flux, and it matters to me more and more. I feel it viscerally when the rains don't come or I find expanses of bare earth. There has been a corresponding shift in my attitude toward the paddocks. No longer mere backdrop to the coastal woodland and shore, the grasslands have become fully included in my appreciative gaze. I enjoy watching the way the wind works its way across a grassy slope, the rhythmic darkening of the surface as it flattens the pale heads of grass, just as the passage of a southerly squall across the Channel is marked by dark ruffled patches of water.

The other process is abrupt and discontinuous. I recall the eagle hovering above me and what it was like to be seen through wild and curious eyes. It was the shock of unexpected contact with an Other, being lifted out of my human-centeredness. Perhaps I am becoming "imprinted." No doubt it's a little too early to tell, but I feel too much respect for the other-ness of eagles, their wildness complete in themselves, to be able to say I identify with them.

Restoring the land is unlike restoring a piece of old, damaged furniture to its former glory. The past is only a partial guide to what needs to be done. The advice of ecologists has been useful in designing our plantings, but climate change means that the same range of plants won't be able to grow here. There is no knowing what will survive the droughts and storms to come.

Nor have I been on a simple journey toward wholeness and restoring the psyche. Taking on the custodianship of all our land, not just the coastal woodland strip, has involved messiness, uncertainty, and complexity. At the same time, the effort has given me meaningful physical and mental work, a

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sense of collaborating with the land's regenerative forces, and the company of eagles, peregrine falcons, and other wild creatures. I wouldn't have it any other way.

Notes

1. Roszak, T., Gomes, M. & Kanner, A., eds., 1995. *Ecopsychology: Restoring the Earth, Healing the Mind* (San Francisco: Sierra Club Books).
2. Shapiro, E., 1995. Restoring Habitats, Communities and Souls, in Roszak *et al*., pp. 224–39 [see note 1].
3. "Grazier" is the local term for people who graze many sheep or cattle on their own land and often on neighboring land. The American equivalent would be "rancher."
4. This philosophy developed as we attempted to live within our ecological means on Bruny; see my Fourth Letter from Far South (*EAP, 21,* 1).
5. "Ute," short for utility vehicle, is the Australian term for a pick-up truck.
6. See Third Letter from Far South (*EAP*, *20,* 2) for this history.
7. By "foundational," I mean that, at maturity, we should have the 25-30-per-cent tree cover that visiting ecologists have suggested would be best for this particular land.
8. Inhabiting different time scales has been an ongoing theme of our life on Bruny. In my Second Letter (*EAP*, *19,* 3), I explored the juxtaposition of geological time scales and the human lifespan; in the Third Letter (*EAP*, *20*, 2), I considered the presence of several hundred years of intercultural history; and in the Fifth Letter (*EAP*, *22*, 1), I wrote about a 500-year-old grasstree that serves as a constant reminder of the longer perspective on our activities.
9. By "full value," I mean providing habitat (tree hollows that require at least 50-year-old trees) as well as offering a food source.
10. In some ways, I've come to see my morning commitment to maintaining the land as analogous to the Buddhist practices I used to engage in; this parallel will be the subject of a future essay.
11. Last year, a small group of environmentally-oriented people, including myself, formed the Bruny Island Environment Network to coordinate the wide range of environmental activity occurring in Bruny's forests, fields and waters.
12. Interestingly, not all bird species make this mistake. By coincidence, I was reading the March 2009 issue of *Wingspan*, the magazine of "Birds Australia," which included an article about European Magpies able to recognize themselves in the mirror and peck off spots of paint placed on their bellies by researchers (p. 43). These magpies join other non-humans (including great apes, elephants, and dolphins) that have been shown to have self-recognition.
13. Andrews, P., 2006. *Back from the Brink: How Australia's Landscape Can be Saved*, p. 128 (Sydney: ABC Books).
14. I've also been influenced by the ongoing struggle our local Killora Coastcare Group faces with controlling boneseed (*Chrysanthemoides monilifera*), an invasive shrub. Entire coastal hillsides have such dense boneseed cover that no other species can grow.
15. See my Third and Fifth Letters from Far South (*EAP*, *20,* 2; *22,* 1) for accounts of doing Goethean science—an intensive sensory and intuitive investigation of local natural phenomena.
16. Shapiro *op. cit*., p. 227.
17. Shapiro *op.cit*., pp. 232–33.
18. Shapiro *op.cit*., p. 226
19. Particularly with regard to generating our own power—see my Fourth Letter from Far South (*EAP, 21,* 1), 1–3.

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